REMARKS/ARGUMENTS

35 USC 112

Previously presented new claims 67-69 were rejected for having new matters. Specifically, the Office indicated that a counterbalancing spring motor having three rotary elements and two springs was not originally disclosed. Furthermore, the Office indicated that Roman shades, wooden shutters were not adequately disclosed. The applicant respectfully disagrees. Although not specifically mentioned, these limitations are supported since the specification does not mention any undesirability of using more than one spring. Without disclaiming the scopes of a counterbalancing spring motor having three rotors and two springs, and without disclaiming the scopes of Roman shades and wooden shutters, the applicant hereby amends claims 67-69 to recite the requirement that there be "at least" one spring, and "at least" two rotary elements. As for the type of shades, those elements have been removed to move prosecution forward. Any currently presented claims reciting a window covering system comprising a counterbalancing motor having a spring and two rotors shall encompass embodiments where more than one spring, more than two rotors, or both, are implemented. Also, any currently presented claims reciting a window covering system comprising a collapsible member, the collapsible member shall encompass all known suitable window coverings such as Roman shades, honeycomb shades, and wooden shutters.

35 USC 103(a)

The Office has again presented Gertzon (2,594,637) and Kuhar (5,482,100) as the basis for obviousness rejection under 35 U.S.C. § 103(a). The applicant respectfully disagrees.

The applicant has the following comments (please also refer to the attached Affidavits for evidence in support of the applicant's below argument):

Motivation to Combine based on Impermissible Hindsight

In the Office Action dated 01/10/2007, the Patent Office argued that the "desirability" of combining Kuhar with Gertzon is clearly stated, i.e., to create a balanced system as well as to remove the safety hazard inherent in a hanging cord. The Office considered the motivation to be abundantly clear. The applicant respectfully disagrees.

Here, the question is, *even if the prior art as a whole suggested combining Gertzon and Kuhar to eliminate pull cord for safety reasons, would this combination have resulted in a cordless window covering system having a balanced spring motor, together with a pulley system, among other things (as claimed)?*

And additionally, *where the secondary reference (Kuhar) had taught the advantage of a "simple and easily adaptable mechanism," and specifically taught the importance of "having few component parts," would the prior art as a whole have suggested reintroducing (or retaining) the pulley system in the resulting combined device?*

The applicant believes the answer is "no" for both inquires.

The Office has merely generalized that such a combination is "desirable," and failed to point out how the combination of Gertzon and Kuhar, as the result of the "desirability," would have resulted in the claimed device. In other words, even if there was sufficient desirability in the prior art as a whole to combine two references according to *Lindemann Maschinenfabrik GMBH v. American Hoist and Derrick Co.*, 730 F.2d 1452, 1462, 221 USPQ 481, 488 (Fed. Cir. 1984), what would have been the imaginary "combined device," as suggested by the prior art? Having found motivation to combine two references does not and should not equate to the conclusion that any and all possible permutations of combining an array of elements from both references would have been obvious. While the general combination of two references might have been suggested by the prior art, how individual elements in both references were retained, modified, repositioned, resized, rearranged, or eliminated to result in the imaginary "combined device" may very well have required additional steps of inventive thinking. Especially when the imaginary combined device required that some individual elements be retained, modified, and eliminated in ways not suggested by the prior art, such combination unquestionably requires additional inventive steps that would not have been obvious.

The technology and level of skills involved in window blinds in general is relatively lower than some other art. And typical window blind systems are generally less complicated, having limited types of mechanical parts in the system, each part performing a task utilizing basic laws of physics. In such simple technology area, there are only few mechanical elements

that an inventor can work with to improve upon the prior art. And often times innovation is achieved by recycling the same mechanical parts. In a technology area that simple, it is often the minor changes that are the major (and unexpected) innovation breakthroughs.

In looking at Gertzon and Kuhar as a whole, the overall "desirability" to eliminate pull cord is instantly answered by Kuhar's spring motor. Kuhar provides that a spring motor is all that is needed to lift the blinds. In fact, pulleys are discouraged because Kuhar wanted to create friction and tension through lifting cords direct contact with rough edges such as those indicated by numbers 50 and 56 in Figure 2. It is also believed that the lifting cords also directly scrape against the edges of the bores leading lifting cords out of the head rail. A spring motor is located in the center of the top rail, lifting blinds without the assistance of pulleys. In fact, Kuhar mentions the desirability of a simple and easily adaptable mechanism having few component parts (col. 2, lines 5, 6) In operation, the Kuhar device as offered in the market place has a large motor using a rather heavy duty spring to lift the weight of the blinds. Because of the rather large motor, a relatively large head rail with sufficient channel space is required to house the motor.

The Gertzon reference (the primary reference) shows a typical household Venetian blind system with a top rail to hold all the components required for manual pulling. These components include: intricate layers (three layers are shown in Fig. 3) of rotors forming a pulley system, and a cord lock. The Gertzon head rail is also rather large, sufficient to house three layers of rotors.

Teaching Away

In fulfilling the desirability of eliminating pull cord, the Gertzon device can be modified as taught by Kuhar to become safer, and simpler with few component parts. *The resulting modified device would have been just that: a cordless-blind system that is simple with few component parts, when compared with conventional blinds.* There is no other teaching in the prior art to combine the two reference in any other ways. In particular, there is no teaching in the prior art to retain a pulley system when modifying Gertzon. Kuhar specifically teaches against having a complex system with many component parts.

The Federal Circuit has indicated that one important indicium of nonobviousness is "teaching away from" the claimed invention by the prior art, and has reversed rejections of claims where it found that prior art references applied by the Patent Office in fact teaching away from what was being claimed. Therefore, an applicant may rebut a prima facie case of obviousness by showing that the prior art teaches away from the claimed invention in any material respect. In re Geisler, 116 F.3d at 1469, 43 USPQ2d at 1365 (quoting In re Malagari, 499 F.2d at 1303, 182 USPQ at 553).

Obvious to Try

As such, the immediate obvious combination as suggested by the prior art as a whole is to replace the *entire* inner components of Gertzon, with the spring motor of Kuhar. The prior art as a whole does not suggest that the combined device should or would retain a pulley system. While it might have been obvious for one skilled in the art to "try" different possibilities in retaining, repositioning, and resizing the pulley system, such "obvious to try" standard has been rejected by the courts. *In re Merck & Co., Inc.* 800 F 2d 1091 (C.A. Fed., 1986).

Therefore, even if it would have been obvious to combine Gertzon and Kuhar for the purpose of eliminating pull cord, the combined device would have been far different from Applicant's claimed device, which has a pulley system (among other novel features). Achieving applicant's claimed device requires many nonobvious inventive steps, some examples include:

1. Retain the pulley system (thus making the system more complicated)
2. Retain all necessary parts to prevent cord entanglement and twisting (e.g., guide 36 and double wheels 35 as described in col. 2, lines 7-10 of Gertzon)
3. Test to see if such complicated and costly design offers any advantages

On the other hand, the applicant has invented a window covering system with many unexpected advantages to resolve issues not previously recognized (or resolved) in the prior art. Examples of these issues include:

1. The requirement for large springs - Kuhar requires a sufficiently large spring. Kuhar's spring motor needs a heavy duty spring for more stabilized biasing force. Otherwise, when the blind is lowered and raised, and immediately after the user's

hand leaves the bottom member, the bottom member would slightly spring back up towards the head rail, or drop slightly towards the ground. Using a pulley system eliminates the need for a heavy duty spring. Large springs requires a rather unsightly large head rail. In the instant application, a pulley system allows a smaller gauge spring to be used, head rail can be miniaturized for a more aesthetically appealing look.

2. Heavy duty springs are expensive - One would have thought that adding a pulley system would undesirably increase manufacturing cost (because of added manufacturing steps, cost of material, etc.). Surprisingly, although more complicated, adding a pulley system actually decreases manufacturing cost, not raising it.

3. Scraping of lifting cord against bracket reduces usable life - When a cordless blind is lowered and raised, the bottom member slightly springs back up towards the head rail, or it may drop slightly towards the ground. In other words, height adjustment precision is a problem. Kuhar attempted to address this issue by letting the cords to scrape against bracket 55 or against the rim of bores leading the cords out of the head rail. Kuhar's method decreases usable life of the cords. The instant application solves this issue by using a pulley system to create additional friction and tension in the cord (without direct scraping, which damages the cords, like in Kuhar).

The prior art as a whole provides no suggestion or solution to these issues by combining Gertzon and Kuhar. Further, the prior art does not even acknowledge these issues. The advantages shown in the instant application would not have been the expected results of combining Gertzon with Kuhar as suggested in the prior art. To conclude that the general combination of Gertzon and Kuhar to improve safety would magically solve these issues and result in the applicant's claimed invention would constitute impermissible hindsight.

The Office is respectfully reminded that all inventions are combinations of old elements, or rearrangement of old elements in a novel, nonobvious way. Although the claimed invention

here involves only relatively simple mechanical concepts, the combination of these old elements provided major innovations to the window blinds industry. As the court has pointed out in *In re McLaughlin*, 443 F 2d 1392 (C.C.P.A., 1971), "**a patentable invention, within the ambit of 35 U.S.C. section 103, may result even if the inventor has, in effect, merely combined features, old in the art, for their known purpose, without producing anything beyond the result inherent in their use.**" Quoting *In re Sponnoble*, 56 CCPA 823,405 F. 2d 578, 56 CCPA 823 (1969).

The Office has the initial burden of setting forth a prima facie case of obviousness, and to do that the Office must identify **specific** teachings, suggestions or motivations in the prior art for making the claimed combination. It is insufficient to merely pointing out **in general** that it would have been obvious to combine two references to satisfy **a general desirability** without providing **specific** teachings of how and why each individual element in the references is eliminated, retained, modified, repositioned, or resized. Nor is it sufficient to merely state that combination of the missing elements is obvious because their combination would be beneficial. If that were the standard nothing would ever be patentable.

Objective Evidence of Nonobviousness

Objective evidence or secondary considerations such as unexpected results, commercial success, long-felt need, failure of others, copying by others, licensing, and skepticism of experts are relevant to the issue of obviousness and must be considered in every case in which they are present. The weight to be accorded to the evidence depends on the individual factual circumstances of each case. Stratoflex, Inc. v. Aeroquip Corp., 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); Hybritech, Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 231 USPQ 81 (Fed. Cir. 1986), cert. denied, 480 U.S. 947 (1987). The ultimate determination on patentability is made on the entire record. In re Oetiker, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992).

The Applicant hereby attaches Declarations signed under 37 CFR 1.132 to submit evidence of secondary considerations of nonobviousness. The presented evidence is relevant to the issue of obviousness, and case law provides that such evidence must be considered in every case in which they are present. The court in *Graham v. John Deere Co.*, (383 U.S. 1, 86 S. Ct.

684, 15 L.Ed. 2d 545 (1966)) stated that "the inference of obviousness drawn from the prior art disclosure is only prima facie justification for drawing the ultimate legal conclusion that the claimed invention is unpatentable under 35 U.S.C. section 103, it is imperative that such secondary considerations also be evaluated in determining the final validity of that legal conclusion."

The Declaration of co-inventor Li-Ming Cheng demonstrates the following:

- Unmet need: known cordless shades were offered in the made-to-measure market, no cordless shade was available to general consumers. Retailers were looking for the perfect cordless shade to carry in their stores and catalogues
- Unexpected result: features of the claimed invention miniaturized head rail, lowered manufacturing cost, provided more precise adjustment, and is light-weight
- Commercial success: expanded market share without significant changes in marketing expenditure/plan; replaced competing products in the market place
- Copying of others: at least two companies has been selling the claimed invention, one of them use to be the sole distributor for the claimed invention

The Declaration of Theodor Crous Swart (Marketing manager of the applicant company) demonstrates the following:

- Commercial success: it was the first cordless shade to be carried by the JCPenney catalogue
- Commercial success: increased invitations from larger retailers to participate in new shade programs
- Commercial success: expanding to additional large U.S. retailers
- Commercial success: drastic annual sales increases despite the same level of marketing expense
- Commercial success: the applicant company has gained recognition in the industry
- Commercial success: entered into markets for high quality shades previously not available to the applicant company

The Declaration of ChingHo Chao (Engineer of the applicant company) demonstrates the following:

- Cordless shades were not available in the general retail market in 2003
- Known cordless shades in 2003 had problem making precise adjustment
- In 2003, profitable untapped market could be found in affordable cordless shades that are ready-made, as opposed to customized cordless shades in the made-to-measure market
- Contributions the Kuhar patent made to the industry in view of industry trend includes its idea that a simple, adaptable spring-motor creates a cordless shade with less component parts

Overall, the critical and unexpectedly improved properties of cordless shades according to the invention are demonstrated in the attached Declarations. The advantages of applicant's cordless shade have been recognized in that it has achieved outstanding commercial success in entering into major markets in just a few months. Also, the product was so commercially successful that it was copied by others in only about a year after it was introduced. As such, the Office is respectfully asked to review all evidence as presented, favorable decision is earnestly solicited.

Additional Features of the Applicant's Invention

Not wishing to limit or define the scope of the current claims, the applicant further describes additional features of the instant invention (as originally shown in the drawing figures) for discussion purposes only. The following section shall not constitute a disclaimer of claim limitations, and is not intended for distinguishing the pending claims from the prior art of record.

A. Roundabout Cord Entrainment

Roundabout cord entrainment refers to entraining the cords (primary and secondary cords) around a set of pulley rotors in a circuitous fashion as shown in Figures 3, 4, 17 and 18. And as described in paragraph 0051, cords wind around all or most of the rotors before exiting the "circuit". When exiting, the cords entrain partially around the middle two rotors and then exit. It is clearly illustrated in figures 17 and 18 that the cords can go

around and around the same set of rotors many times until they leave the circuit. Some example advantages of this roundabout entrainment are:

- the rotor set (pulley set) itself can store (or collect) cords
- no additional rotor is needed to accommodate longer cords (versus the pulley in Gertzon, to accommodate longer cords, more levels of rotors are needed in Gertzon)
- head rail can be miniaturized because only a minimum number of pulley rotors are needed to accommodate different lengths of cords
- head rail can be miniaturized because the rotors are linearly aligned, instead of in levels (as shown in Fig. 3 of Gertzon)
- head rail can be miniaturized because spring-motor no longer requires a relatively large storage spool, since the pulley rotors share the burden of storing cords

The standard drop (length) of today's shade is around 72 inches. Longer drop shades require longer cord. To accommodate a longer cord, Gertzon would need to add more levels (or layers) of pulley rotors to the three levels it already has in Figure 3, making its head rail even bulkier.

B. Creative Use Of Pulley Rotor To Create Tension/Friction

An optional rotor (rotor 4 in Figure 17, and rotor 5 in Figure 18) can be used to deform a path of the circuit. In Figures 17 and 18, the circuit is deformed inward, creating extra tension, friction, or both. This extra tension or friction improves blind adjustment precision, so that when the hand leave the bottom member after the blind is lowered or raised, the bottom member does not slightly spring back up towards the head rail, or drop slightly towards the ground. Kuhar unsuccessfully tried to address this by allowing its cords to scrape against bracket 55 (at part 50 and 56, in Fig. 2), or scrape against rim of the bores as the cords leave the head rail.

Correction to Statements Previously Made

In the Request for Continued Examination submitted on November 13, 2006, and in the Preliminary Amendment submitted on December 04, 2006, the applicant's remarks may have appeared to say that the applicant's company had no North American market share prior to launching the claimed product. The applicant did not intent on deceiving or misleading the Office.

To clarify, prior to launching the claimed product, the applicant company simply manufactured window shades accordingly to customer's specifications (i.e., original equipment manufacturing, or OEM), made low-end, low-priced, simple shades for large retailers in North America (please see attached Affidavit). Despite its business relationships with some large retailers, the applicant company could not expand its market because the applicant company lacked innovative products. Launching of the claimed product was the applicant company's attempt in transitioning to original design manufacturing (ODM) and original branding manufacturing (OBM). The claimed product helped establishing business relationships with retailers (i.e., JCPenney®) the applicant has never before dealt with.

Allowable Subject Matter

The applicant thanks the Office for recognizing allowable subject matters in claims 56, 57, and 66.

Request For Allowance

Claims 50-69 are pending in this application. The applicant thanks Examiner Johnson for his dedication and helpful advice throughout the examination of this application. The applicant hereby respectfully requests allowance of all pending claims.

Respectfully submitted,
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